



ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

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End of ALT Program makes orbital missions more imminent

Much has already been published concerning plans for specific flights aboard Shuttle and, in particular, Spacelab. Actually, things are still in the early planning stage, but with the conclusion of the Approach and Landing Test (ALT) Program, many people are thinking about future flights more seriously.

NASA has identified about 40 payloads for Space Shuttle flights beginning in 1980.

Chester M. Lee, Director of the NASA Space Transportation System Operations, says that three civilian firms have deposited "earnest money" with the space agency to cover payloads on eight flights.

"There are 12 non-NASA civil payloads, 10 NASA and 4 Department of Defense payloads forecast for launch during 1980 and 1981," Lee says. "Clearly, the pipeline is beginning to fill up."

The first six flights are designated OFT missions, and the objective of these flights is mainly to evaluate the performance of the Shuttle and its systems to see if it can do what it is designed to do, namely to carry various payloads into space to accomplish specific tasks.

Therefore, the OFT missions will be devoted largely to carrying out investigations in Earth resources, environmental quality, and severe storm research. The Skylab and Landsat programs have already proven that space provides a tremendous opportunity to study the Earth for the benefit of mankind.

Carried on the first orbital mission (OFT-1) will be a special instrument package called the Induced Environment Contamination Monitor (IECM) to measure the effects of the Shuttle on the space immediately around it. The IECM will be carried on all six OFT missions.

The other five Shuttle payload investigations, their purposes, and their principal investigators (PI's) as currently assigned are as follows:

All-Weather Surface Observation Investigation — This investigation will extend Earth resources investigations into the microwave portion of the electromagnetic spectrum. Information gleaned will be particularly important to mineral exploration and to areas where clouds are present much of the time. The PI is Dr. Charles Elachi of Jet Propulsion Laboratory.

Measurement of Air Pollution from Satellites — This investigation will measure the amount and circulation of carbon monoxide in the middle and upper troposphere and will represent the first measurement from space of pollutants in the lower atmospheric levels. The PI is Dr. Henry G. Reichle, Jr., of the Langley Research Center.

Shuttle Multispectral Infrared Radiometer — A special instrument will test spectral bands not now used by Landsat but which appear to have important applications to mineral, oil, and gas exploration. The PI is Dr. Alexander F. H. Goetz of Jet Propulsion Laboratory.

Ocean Color Experiment — This investigation will represent an attempt to obtain bioproductivity data by measuring variations in water color in the open oceans and identify concentrations of chlorophyll as an indication of the presence of plankton and algae. The PI is Hongsuk H. Kim of the Goddard Space Flight Center.

Nighttime/Daytime Optical Survey of Thunderstorm Lightning and Convective Behavior — This investigation will examine the correlation between lightning and various types of severe storms in an attempt to later develop satellite systems that

can identify severe storms day or night. The PI is Dr. Bernard Vonnegut of the State University of New York at Albany.

Shuttle Flight 7 — The Long-Duration Exposure Facility (LDEF) is a passive, free-flying satellite that will accommodate a large number of space experiments and an experiment pallet.

Shuttle Flight 8 — Tracking and Data Relay (TDRSS-A) for Western Union and SBS-A, a communications satellite for Satellite Business Systems.

Shuttle Flight 9 — GOES-D, a geostationary operational environmental satellite for the National Oceanic and Atmospheric Administration (NOAA) and Telesat-E, a communications satellite for Canada.

Shuttle Flight 10 — TDRSS-B for Western Union and SBS-B for Satellite Business Systems.

Shuttle Flight 11 — Spacelab 1. Spacelab is being built by the European Space Agency (ESA). This first Spacelab mission is a joint NASA/ESA science mission.

Shuttle Flight 12 — GOES-E for NOAA and Intelsat 5 for Communications Satellite Corp.

Shuttle Flight 13 — TDRSS-C for Western Union and Telesat-F for Canada.

Shuttle Flight 14 — Spacelab 2 for NASA.

Shuttle Flight 15 — Telesat-G for Canada, GOES-F for NOAA and retrieval of the LDEF launched on Space Shuttle Mission 7.

Shuttle Flight 16 — TDRSS-D for Western Union and SBS-C for Satellite Business Systems.

Shuttle Flight 17 — Spacelab 3, a multi-user mission with experiments in life sciences, technology and applications.



TRADITIONAL PLAQUE MOUNTED — ALT Flight Dynamics Officer Charles F. Deiterich follows the splashdown tradition in hanging the Approach and Landing Test plaque on the wall of the ALT control room, soon to be further modified for Shuttle operations. Deiterich climbed the ladder at the successful conclusion of Free Flight 5.

Stonesifer will head JSC Life Sciences Program Office

John C. Stonesifer has been named to head the newly created JSC Life Sciences Experiments Program Office. JSC is the lead NASA field center for program management, planning, development and operation of life sciences experiments to be carried aboard Space Shuttle and other future spaceflight programs.

Life sciences flight experiment activities at JSC, at Ames Research Center, and at Kennedy Space Center will be managed by the new program office.

Stonesifer will continue as acting chief of the JSC Bioengineering Systems Division until a replacement is named.

Stonesifer joined NASA in 1957 at the Langley Research Center and transferred to the NASA Space Task Group in 1962 during Project Mercury. He was chief of the JSC Recovery Branch before becoming chief of the Bioengineering Systems

Division. He holds a Bachelor of Science degree from the University of Miami.



John C. Stonesifer



AWARDS PRESENTATION — Center Director Christopher C. Kraft presented a JSC Group Achievement Award Oct. 20 to the Shuttle Avionics Integration Laboratory Test Team. The citation reads: "In recognition of their exceptional dedication and technical competence in successfully completing the OV-101 Free Flight Avionics Certification Program ahead of schedule." Approximately 50 civil service and 290 contractor personnel were actually involved in the program, often working weekends and holidays. Accepting the group award on the part of the team are, left to right, Rex W. Bennett, Lockheed; H. N. Singh, Lockheed; Christopher Kraft, Jr.; Pat M. Kurten, Avionics Systems Engineering Division; and Alex G. Coutret, Rockwell.

ALT ends with a skip, but no whimpers

Pilots Fred Haise and Gordon Fullerton landed the Orbiter *Enterprise* on the Edwards Air Force Base main runway Oct. 26, which ended the Approach and Landing Test (ALT) flight series. Despite a somewhat rocky touchdown and a 20-knot overspeed at flareout, the crew braked the *Enterprise* to a full stop 2,000 feet short of the end of the 15,000 concrete runway, which is the same length as the runway at the Kennedy Space Center.

Free Flight 5 was the steepest and most rapid descent of all the free flights — maximum sink rate of 11,412 ft/sec and an average glide angle of 2.6 to 1.

"The main theme we had down at landing was to get close to the right line, and we went a little long by the line and also succeeded in filling, I think, three landings on this flight rather than one," laughed Haise at the final ALT press conference.

The crew met all flight objectives. The brake fix worked exactly as expected; the antiskid system and brake pedal deflection were very effective.

"There was no chattering. We could feel no cycling. There was a smooth onset of slowing up or deceleration," said Haise.

Fullerton's major role in the flight was that of systems operator. However, according to Fullerton, the systems have reached a point where they are operating so well that "there isn't anything newsworthy to report."

"What were severe problems earlier when we first started checking out the airplane at Palmdale," stated Fullerton, "and then when we ... started doing ... hot fire tests and actually running the auxiliary

power units, we had major problems it seemed like every test, but the rate of fixing those problems and the recovery has been amazing to me."

Fullerton said that while the two were taxiing out that morning they found themselves looking at the checklist and realizing they had nothing to do for nearly 20 minutes!

On the 747, Tom McMurtry made the takeoff and did the first part of the flying and Fitz Fulton did the last part of the flying task, including the launch of the Orbiter and the 747 landing.

The 747 crew will still have some more flying to do as the *Enterprise* will be mated again for a series of ferry verification flights.

Four ferry test flights of the Space Shuttle Orbiter *Enterprise*, mated to the Boeing 747 Shuttle Carrier Aircraft (SCA), have been scheduled for November 14, 15, 17 and 18 at the Dryden Flight Research Center.

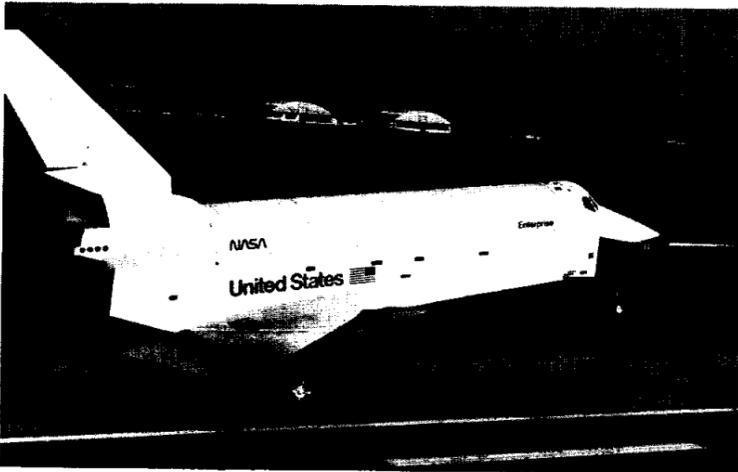
The flights will measure the performance of the mated combina-

tion with a three degree forward angle between them. Previous flights were flown with a six degree angle.

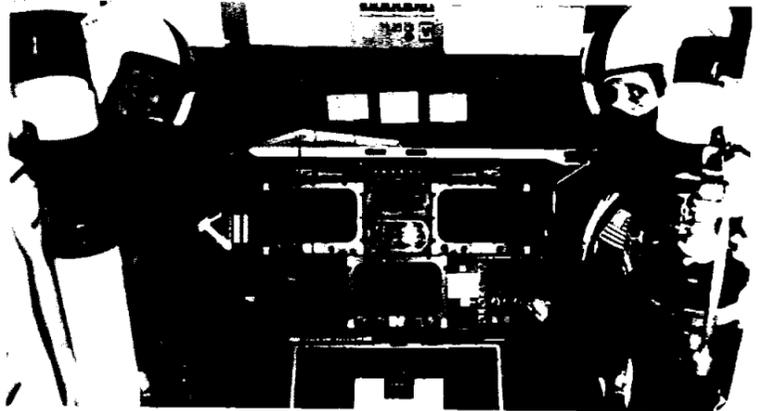
Data gathered will be used for planning the first ferry flight, now scheduled for March 1978, when Orbiter Vehicle 101 (the *Enterprise*) will be transported atop the 747 to the Marshall Space Flight Center in Huntsville, Alabama, for ground vibration tests.

Subsequent ferry flights will transport future Orbiters to the Kennedy Space Center in Florida where they will be launched into space following their construction at the Rockwell International facility, Palmdale, California.

In addition to determining the best speed and altitudes for ferry flight configuration, other test conditions to be explored include holding-pattern performance and engine-out performance, both in the cruise and the landing/takeoff pattern. The first flight will primarily examine buffet and flutter on the SCA's horizontal tail.



SECONDS BEFORE TOUCHDOWN — The Orbiter is guided to a landing on the concrete runway.



READY TO GO — Astronauts Fred Haise (left) and Gordon Fullerton are shown in the cockpit of the Orbiter prior to the fifth free flight.

Maximum speed for the series of four ferry flight tests should be approximately 450 mph, peak altitude will be 26,000 feet, and top takeoff weight will be 710,000 pounds.

Crew for 747 will be the same four members who flew the 747 in the approach and landing test flights.

Fullerton admitted to a kind of relaxed, letdown feeling that comes at the conclusion of a program like the ALT. He was quick to point out, however, that this is "a very tiny first step when you consider the entire flight envelope..."

The skip and the oscillations in the Free Flight 5 landing apparently were caused by a difference in speed bleed off from what was expected, starting from preflare to over a landmark they passed short of the runway. The *Enterprise* was about 20 knots fast. Haise believed he tried to force the airplane on when it was still going by the line at 200 knots, and the first touchdown seemed fairly gentle to him. Then, he was surprised when he found they were back in the air again, and that is when the skip occurred. Part

of the data review will be to ascertain whether this skip was due to a rolling input or whether Haise induced it. But when Haise relaxed the stick the oscillations stopped and touchdown was achieved. The Orbiter had passed the landing gear dynamics part of the program.

Haise felt a personal sense of disappointment that the landing did not come out exactly as planned. "There's always a challenge to the individual involved in approaching a thing of this kind," he said. "In this case, it was to hit right on the line and it didn't turn out. But the recovery, I guess, is something of a thing to look at in itself. In the total program, we as operators can have nothing but the highest regard for the people that have done the work on this machine."

Actually, even though Haise was not too happy about the landing, he quipped to newsmen that he thought His Royal Highness, the visiting Prince Charles (a pilot himself), was not displeased because earlier at JSC in the Orbital Flight Simulator, the Prince had encountered the same sort of thing on his second simulated approach!

Ninth group of astronaut applicants arrive at JSC

The ninth group of Space Shuttle astronaut applicants came to JSC for a week of physical examinations and individual interviews Nov. 7-11.

This group includes 21 mission specialist applicants and two pilot applicants. Eleven of the applicants are military with representatives from each of the four services. Two of the applicants are women bringing the total number of women applicants to 20.

The names, age, degrees and/or military rank, birthplace (BP), place of employment or current duty station (DS) of the individuals in this ninth group are:

Lt. Franklin S. Achille, 29, USN; BP — Doylestown, Pa.; DS — USN Test Pilot School, Patuxent River, Md.

Lt. David W. Anderson, 29, USN; (BP) — Lincoln, Ill.; DS — Naval Air Test Center, Patuxent River, Md.

Maj. Guion S. Bluford, Jr., 34, USAF; BP — Philadelphia; DS — Air Force Flight Dynamics Lab, WPAFB, Dayton, Ohio.

Lt. Joseph C. Boudreaux III, 30, USN; BP — New Orleans, La.; DS — Cruiser Destroyer Group 5, FPO San Francisco, Calif.

David R. Dougherty, 32, Ph.D.; BP — Enid, Okla.; DS — Louisiana State University, Chemistry Dept., Baton Rouge, La.

Capt. Thomas E. Edwards, 35, Ph.D., US Army; BP — Starkville, Miss.; DS — NASA Langley Research Center, Hampton, Va.

Maj. John M. Fabian, 38, Ph.D., USAF; BP — Goosecreek, Tex.; DS — USAF Academy, Colorado Springs, Colo.

William F. Fisher, 31, M.D.; BP — Dallas, Tex.; DS — Emergency Physician in Several Large Hospitals, Los Angeles, Calif.

CDR Stuart J. Fitrell, 38, USN (Pilot); BP — Cleveland, Ohio; DS — Commanding Officer, Attack Squadron 66, NAS, Cecil Field, Fla.

Lt. Dale A. Gardner, 28, USN; BP — Fairmont, Minn.; DS — F-14 Operational Test Director, VX-4, NAS, Pt. Mugu, Calif.

Robert L. Golden, 37, Ph.D.; BP — Alameda, Calif.; DS — NASA/JSC, Space & Life Sciences Directorate, Houston, Tex.

Terry J. Hart, 31; BP — Pittsburgh, Penn.; DS — Technical Staff, Bell Telephone Laboratories, Whippany, N.J.

Barbara J. Holden, 32, Ph.D.; BP — Los Angeles, Calif.; DS — Electronics Engineer, Naval Weapons Center, China Lake, Calif.

Gary R. Jackman, 32, Ph.D.; BP — Waterbury, Conn.; DS — Research Associate, University of Florida, Gainesville, Fla.

Lawrence W. Lay, 33, D.O.; BP — Kansas City, Mo.; DS — Flint Osteopathic Hospital, Flint, Miss.

Samuel E. Logan, 30, M.D.; BP — Los Angeles, Calif.; DS — Resident in Surgery, UCLA, Los Angeles, Calif.

Gregory B. McKenna, 28, Ph.D.; BP — Pittsburgh, Pa.; DS — General Physical Scientist, National Bureau of Standards, Wash., D.C.

Judith A. Resnik, 28, Ph.D.; BP — Akron, Ohio; DS — Xerox Corporation, El Segundo, Calif.

Capt. Eugene A. Smith, 32, USAF; BP — Utica, N.Y.; DS — Office of the Secretary of the Air Force, Los Angeles Air Force Station, Calif.

Maj. Robert C. Springer, 35, USMC (Pilot); BP — St. Louis, Mo.; DS — Systems Engineering Test Directorate, NAS Patuxent River, Md.

Norman E. Thagard, 34, M.D.; BP — Marianna, Fla.; DS — Medical University of South Carolina, Charleston, S.C.

James D. VanHoffen, 33, Ph.D.; BP — Fresno, Calif.; DS — University of Houston, Houston, Tex.

Capt. Robert C. Ward, 35, USAF, M.D.; BP — Homestead, Fla.; DS — Hill AFB Hospital, Hill AFB, Utah.



MINUTEMAN FLAG PRESENTED — JSC is proud to be the only Federal Agency in the Houston area to be awarded the Minuteman Flag by the U.S. Treasury for its efforts in the 1977 Savings Bond Campaign. Left to right at the presentation are David Heinrich, Houston Area Manager U.S. Savings Bond Division; JSC's Deputy Director, Sigurd Sjoberg; JSC's Director, Christopher C. Kraft, Jr.; Charles Beckman, JSC's Campaign Coordinator; Roy Aldridge, JSC's Campaign Chairman; and T. Guy Brown, Texas State Director, U.S. Savings Bond Division, U.S. Treasury.

NASA secretaries will honor bosses at Sheraton King's Inn

Members of the NASA Clear Lake chapter of the National Secretaries Association (International) will honor their bosses at the Executive Night Dinner Meeting Nov. 15 at the Sheraton King's Inn. Cocktails will be served at 7 p.m. and dinner will begin at 7:30 p.m.

The keynote speaker will be Rev. M. Dean Woodruff, and the

chapter will honor its outgoing Boss of the Year, Kenneth Gilbreath, Deputy Director of the Center Operations Directorate at JSC.

The price for the dinner is \$8 per person. For reservations and further information, contact Geraldine Taylor, X-5421 or Rachel Windham, X-6496 by the Nov. 11 deadline.

Oberg to speak at AIAA dinner

A very interesting topic, "The Soviet Space Program," will be presented by Capt. Jim Oberg at the Nov. 14 AIAA dinner meeting at the Gilruth Recreation Center.

Oberg is with the Air Force currently on assignment to JSC in the Flight Control Division. He won the Robert Goddard Space History Award the past two years and has been named AIAA distinguished lecturer.

Cocktails will be served at 6 p.m., dinner at 7 p.m., and the program will begin at 8 p.m. For reservations call Doris, X-4546.

IEEE/ISA plans joint meeting

"Spectrum Analysis-Use of the Fast Fourier Transform (FFT) in Vibration Analysis" will be speaker Calvin Taylor's (B & K Instruments) topic Nov. 17 at the University of Houston at Clear Lake City.

The event is jointly sponsored by the Institute of Electrical and Electronics Engineers (IEEE) and the Instrument Society of America (ISA) and will begin at 5 p.m. in the Bayou Building cafeteria. No reservations are required; everyone is welcome, and the meeting will last one hour.

TICKETS

The following tickets are available at the Bldg. 11 Exchange Store from 10 a.m.—2 p.m. Monday — Friday.

Astroworld — Astroworld is open weekends from 10 a.m. to 6 p.m. through November. Adult & children's tickets are available for \$5.95 each. That's still a \$2 discount.

Dean Goss Dinner Theater — The comedy play "Right Bed, Wrong Husband" is still featured at the Dean Goss Dinner Theater. Tickets are now being sold for \$16 per couple or \$8 per person.

Six Flags — Six Flags is open weekends through November from 10 a.m. to 8 p.m. Adult & children tickets are \$6.75 each. That's a \$1.20 discount.

Disney Magic Kingdom Club — Free membership cards.

HOUSTON AERO HOCKEY

Houston Aero Hockey tickets are on sale at the special rates of \$6.50 and \$4.00 through EAA. They are regularly priced at \$8.50 and \$5.50.

Houston Aeros gift cards will be sold in Bldg. 11 to EAA members, who in turn may exchange them at the Aero's Box Office in the Summit for regularly scheduled home games this 77-78 season.

Upcoming home games are with Indianapolis Nov. 11, Quebec Nov. 18, Birmingham Nov. 23, and Cincinnati Nov. 25.

SKIING LESSONS

Learn to ski on a new moving surface trainer! The unique mechanical ski slope pictured has two separate moving belts with a surface that feels like real snow. The British-built ski trainer can be elevated from 8° to 22° and the speed is variable from 0 to 30 mph to simulate a fast run or a beginner's slope.

Ski Houston, 14609 Kimberly Lane is offering a special group package through the Gilruth Recreation Facility. The course consists of a 3-hour lecture class on Tues., Dec. 6, 6:00-9:00 p.m. at the recreation facility and two Saturday sessions on the ski trainer. Those classes will be Saturday, Dec. 10 and 17 at Ski Houston, at their Kimberly address, off Dairy Ashford between I-10 and Memorial.

Fee is \$27 per person and is payable at the Gilruth Center upon signing up. Ages 5 years and up are welcome.

Checks should be made payable to the Gilruth Recreation Facility. Minimum - 12 students; Maximum - 36 students.

CARRIAGE DINNER CLUB

In an effort to combine quality service with substantial savings, the ninth exciting program of the Carriage Trade Dinner Club began Nov. 1.

The special INDUSTRY RATE application will be available in the

EAA offices. Regular general public price is \$15; the special industry discount price is \$12.50. See your EAA representative for a brochure or go to the Building 11 cafeteria.

Each membership contains a directory of restaurants; a plastic membership card and case; bonus coupons for Aero's tickets, theater tickets, and Sea-arama tickets.

You pay for ONE dinner; the second dinner is free. Provisions are provided for guests, and your membership is valid from November through April 30.

JSC/EAA XMAS DANCE

This year's Christmas Dance will be held at the Gilruth Recreation Center Dec. 2 & 3. Dinner will be served at 6:30-8 p.m. and music will last from 9 p.m. to 1 a.m.

Ticket sales are now on sale at the Building 11 cafeteria from 8 a.m. until 1 p.m. After Nov. 16, sales will continue in Building 45 in room 217 from Glenda Lancon.

The Jerry Van Orchestra and the Dialogue Rock Band will provide the music both nights. Friday night, Dec. 2, Roast Beef will be served and the cost will be \$10 per person. Saturday night, Prime Rib will be on the menu and the cost will be \$15 per person.

Ticket sales are limited to 500 persons each night, so get your tickets early!

DANCE CLASSES

The JSC Dance Club will sponsor a new 10-week series of classes every Wednesday evening beginning Nov. 16 at the Gilruth Recreation Center. All types of dancing — from Latins and polkas to rock — will be taught by instructors Bob and Rae Calvert of Calvert Dance Studios.

The advanced class will concentrate on the Whip, Rock, and Swing.

Cost is \$38 per couple. For further information, call Dance Club secretary Billie Fairfax, X-3050.

CHILDREN'S EAA XMAS PARTY

Plan now for the JSC/EAA Christmas Party for children Dec. 17. Tickets will go on sale Dec. 1 for \$1.50.

RESTAURANT & THEATER CLUB

The Restaurant and Theater Club offers for only \$22.50 per membership a full year of two-for-one meals at over 40 fine restaurants; two-for-one discounts on admission tickets to Houston's best theaters, dinner theaters, and musical arts; a monthly issue of *Party Line Magazine*, Houston's complete entertainment guide; and bonuses for your entire family at hotels, cinemas, wildlife parks, and sporting events.

Contact your EAA representative now for more information, or go to the Building 11 Exchange Store.

Roundup Swap Shop

CARS & TRUCKS

74 International 1/2-ton pickup and camper. Sleeps 4. \$3,900. 339-1669.

66 Mustang. 6-stick, good cond. \$750. 334-4387 after 5 p.m.

76 Trans-Am Firethorn. Red, 400 C.I.D. engine, 4-bbl, AM-FM stereo, pwr windows & locks, rear window defroster, rear console, pwr front disc brakes, buckskin int, heavy-duty alternator, tilt steering wheel, A/C. \$5,800 or best offer. Smith, X-3566 or 946-0920.

74 Olds 98 Regency. 4-dr, HT, auto, pwr steer & brakes, A/C, AM-FM, tape deck, new tires. 474-3691 after 5 p.m.

76 Triumph. TR-7, Carmine Red, A/C, AM-FM, tape deck, stripping, side moulding, luggage rack, xint cond, low mileage. 641-1586 after 6 p.m.

66 VW. Stand 4-speed, recently rebuilt engine, almost new tires, metallic blue body, good cond, Sept. inspection. 721-3127.

76 Plymouth Fury Sports Surburban sta wgn. 9-passenger, 400 C.I.D., AM-FM stereo, auto trans, A/C, pwr brakes & steer, oversize tires w/w. \$4000. Klotz, 469-8143 after 5 p.m.

72 Corvette. 4-speed, 454, T-top, Hooker Headers, AM-FM stereo, A/C, radials, new side pipes & mufflers, 55K mi. \$5,600. Holder, X-4344 or 941-4728.

70 Ford Ranchero. A/C, pwr steer & brakes, vinyl cover. X-4871 or 944-3243.

73 Olds Cutlass Salon. 4-dr sedan, A/C, AM-FM stereo, cruise control, new steel belt radials w/w. \$1,850. Smith, X-5271.

71 Gold Camero. Almost new tires, stick shift, A/C. Needs body work, mech good. Perfect for young boy to work on. Way below list. 482-7715 after 5 p.m.

76 Honda GL1000. Fully loaded, all accessories color matched, Lester mag wheels, 20K mi. \$3,300. Steve, X-5841 or 332-6620 after 5:30 p.m.

71 Pontiac Catalina. 2-dr HT, AM-FM stereo, A/C, pwr steer & brakes, vinyl top. Burton, X-5536 or 471-0778.

77 Chevrolet Beauville Sport Van. Cordovan brown/ Santa Fe tan, additional rear seat, all tinted glass, front & rear air, inter wipers, heavy duty shocks, front stabilizer bar, cruise control, tilt & custom wheel, pwr steer, 33-gal fuel tank, 4000W battery, 350 V8, auto trans. 488-0359 after 6 p.m.

71 Pinto. Stand shift, runs good. \$695. Haptonstall, X-3250.

74 Buick Electra 225 custom. Burgundy w/ vinyl top, chrome wheels, AM-FM stereo, cruise control, 6-way seat, pwr windows, locks, auto trunk release, light monitors, dual remote mirrors, corner lights, lighted vanity mirror, climate control air, other extras. 47K mi. 488-0359 after 6 p.m.

Swap Shop advertising is open to JSC federal and on-site contractor employees. Goods or services must be offered as advertised, without regard to race, religion, sex or national origin. Non-commercial personal ads should be 20 words or less, and include home telephone number. Typed or scribbled ad copy must be received by AP3/Roundup by Thursday of the week prior to publication.

BOATS & PLANES

Sale: One-third ownership 66 Comanche 260B. Full IFR. New paint, fresh annual. Based at Clover Field. \$9,500. Samonski, X-4823 or 334-1869 after 5 p.m.

Sale or rent: 73 Cessna Cardinal 177B. 180 HP, TT 960, IFR certified. \$20,000 or \$26/hr rent, wet. Tach at Spaceland. Harris, 543-3617.

Sale: Bass boat, 16 ft., depth finder, 45-HP Evinrude, completely rigged. 334-1486.

Sale: 24-ft Thunderbird boat w/ Tandem trailer & super winch. New 240 HP. OMC inboard/outboard unit w/ heat exchanger, new gas tanks, outriggers, & depth finder. \$6,000 firm. York, X-3051.

Sale: 14-ft deep hull, V-bottom fishing boat. 5 HP outboard motor, oars, anchor, & boat hoist. Like new. All f/ \$795. 482-7546.

Chrysler Tri-hull 22' Sports fisherman. A fast, classy boat f/ Gulf fishing or skiing the Lake. 120 HP/trailer. \$6,800 new. Best offer. Horton, 334-2360.

CYCLES

Honda CL-100. No motor. \$50. Anderson, X-7204 or 485-3025.

Honda 500. Keith, X-2660 or 332-2385.

Honda 350. 4-cyl. 3K mi, showroom new, make beautiful ladies' bike. Grow, 479-4249.

HOUSEHOLD ARTICLES

RCA color TV. 23-in, console. \$35. Motorola B & W TV. 23-in, console. \$25. 333-2509.

Lawnmower. Sears Craftsman 2-in w/9.0 cu. in. engine. Practically new cond. \$50. X-4476 or 481-3086.

RCA 21-in color TV. Walnut console cabinet. Has sound, no picture. \$30. X-4476 or 481-3086.

Sears 17 cu. in. frostfree refig w/ across-the-top freezer. 2 1/2 yrs old. \$175. 472-0027 after 5 p.m.

Hide-a-bed. Xint shape, has slip cover. Makes into double bed. \$100. 946-0342 or 479-5487.

Sears 12 cu. ft. chest-type freezer. Xint cond. \$225 or best offer. 488-1100 after 5 p.m.

LOST & FOUND

Lost: Wedding ring. Plain Gold Band. In Bldg. 30 Oct. 24. Reward. Cliff, X-4582.

PROPERTY & RENTALS

Lease: Heritage Park 4-2-2 home. Like new. Avail Nov. 15. Price depends on length of lease. 488-3170 or 488-3377 after 5 p.m.

Two Lake Livingston Holiday Shores lots. High medical bills are forcing me to turn them back to the developer or sell to you for what I owe. Ward, X-2386 or 488-5445.

Great escape: Beach cottage w/ wood-burning fireplace, steps from the Gulf. \$25/day or \$100/wk to couples. Horton, 334-2360.

Need storage/investment? Adjoining 150' lots in La Porte on paved road near school, bay. \$3,000 ea. Owner will finance. Horton, 334-2360.

Lease: Forest Bend 3-2-2 w/ fireplace & carpets. \$350/mo plus dep. X-3181 or 488-7058.

Sale: Clear Lake City 4-2-2. Easy assumption, low 50's, by owner. 488-4453.

Lease: Clear Lake City townhouse. 2/1 1/2 CP, private patio, refig w/ icemaker, storeroom, own TV antenna. \$325/mo. Deans, 334-3015 after 5 p.m. & wkends.

Sale: Lot at Birch Creek Forest/Lake Somerville. One acre undeveloped property at Beaver Creek. Schmidt, X-4063 or 333-4379 after 4:30 p.m.

Lease: Middlebrook 3-2-2. Fireplace, gas grill, w bar, open living area. \$450/mo plus dep. 488-0658 after 5 p.m.

Sale: Large wooded waterfront lot near Woodville at Lake Charmaine. \$8,500. Will trade or take payments. Mike, X-3040.

Sale: Waterfront home w/ boat slip. 1700 sq. ft. 2-br plus 1 unfinished. Large living, dining, & kitchen. New appliances, carpet, & central A/H. Remodeling incomplete. \$33,950. 333-3166.

For rent: Lake Livingston, Cape Royale, compl furn home, 3-2-1. Fishing, hunting, tennis, golf, etc. Reserve early. Wk/mo/yr rates. 488-4487.

Galveston West End. 2 BR by-the-sea condo apt, full furn. \$180/wk off-season; \$260/wk in-season. Clements, 474-2622.

Rent: New Galveston Island Jamaica Beach cottage. \$175/wk or \$30/day for weekends. 334-1640 after 6 p.m.

Rent: Lakeside vacation retreat at Cape Royale on Lake Livingston. Tennis, boat launch, golf. 488-3746.

Trade: 4-2-2 w/ formal areas, den, fireplace, breakfast, separate office, xint cond f/ large house in NW/NE Houston. 481-0066 after 6 p.m.

MUSICAL INSTRUMENTS

Cornet. Beginners: \$25. Burton, X-5536 or 471-0778.

Reconditioned upright piano. \$225. 481-3787.

Tenor banjo (Gretch) w/ case. Xint cond. \$85. Johnson, X-2021 or 946-7036 after 5:30 p.m.

STEREOS & CAMERAS

Stereo: Sony STR-6036A, AM-FM stereo receiver. \$100. Lake, X-5271 or 523-2137.

WANTED

Need good used inexpensive piano for children's beginning lessons. Bruce, 485-9871 after 6 p.m.

Carpooler needed. S. Shepherd-Memorial Dr. area. 8:30-5 shift. Mike, X-6202 or 861-9160.

Wanted: American Flyer or Lionel electric trains, working or not 334-3182.

Need one person to join carpool w/ 4 other people. Leaves Meyerland Shopping Center at 7:15 a.m. f/ the 8 a.m. - 4:30 p.m. shift. Carl, X-4871; Cathey, X-6387; or Russ, X-4871.

Firefighters needed! Men and women adult residents of CLC needed to join CLC Volunteer Fire Dept. Rewarding community service. You will be trained and equipped. Call 488-0023 any time.

Wanted: used set of World Book Encyclopedias. Rochford, X-2805 or 649-5768.

ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

The Roundup is an official publication of the National Aeronautics and Space Administration Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for JSC employees.

Editor: Beverly Eakman

Photographer: A. "Pat" Patnesky

JSC Fire Department gets involved with area communities

Most JSC employees harbor some vague notion that there is an ambulance and a firefighting unit somewhere around here, but few of us would expect to find the JSC fire department or a JSC emergency rescue vehicle right in our own front yard.

If you live anywhere in the Clear Lake area - Nassau Bay, Clear Lake City, Seabrook, El Lago, and other area cities - you might find JSC involved in firefighting, rescue operations, and even emergency medical treatment.

All this is a result of a reciprocal mutual aid agreement between JSC and area volunteer units. So far, only the firefighting portion of the agreement has been signed by Center Director Christopher Kraft and various community leaders. The idea is that if JSC were to have a large fire, say in one of its "special hazards" facilities, Clear Lake volunteers would be on the scene to help fight the blaze and rescue trapped victims.

If, on the other hand, community units were to be unable to cover a particular emergency, either due to lack of personnel or needed equipment, JSC would help in firefighting and related rescue operations.

John Cunningham, contract specialist at JSC and president of the Clear Lake Emergency Medical Corps, says he hopes the reciprocal agreements will be extended to include emergency medical treatment



John Cunningham

and rescue as well as firefighting/rescue.

"As it stands now," states Cunningham "we have a verbal agreement of sorts so that if a man is trapped in an automobile accident and we can't get him out, JSC will bring their Hurst tool or help out by averting a fire that might be started in an overturned vehicle and spilled gasoline.

"But," continues Cunningham, "our radios, for example, do not have the range to reach Ben Taub General Hospital, which is the only hospital in the Houston area with the sophisticated telemetry equipment needed to monitor vital signs or give instructions involving drugs or intravenous aid that might save a

person's life on the scene. You can't outfit every hospital with that kind of equipment because it is very expensive, and the fact is that the Ben Taub equipment came from the medical directorate at JSC. They have the prototype tele-care unit. Our radios need the repeaters and other communication aids that would help us utilize those resources right here in our own communities."

The Clear Lake Emergency Medical Corps, community volunteer fire departments, and JSC firefighting and rescue units are now involved in mutual training sessions. Al Mercer is the training officer for the Clear Lake Emergency Medical Corps composed of 60 people including many JSC and contractor personnel. Last Saturday, Mercer and JSC held a joint class at the JSC training grounds. Mercer's group covered emergency medical treatment at the scene of automobile accidents, and JSC covered rescue and extrication of auto accident victims.

The training grounds close to the Gilruth Recreation Center were put together using old excess JSC property and a lot of ingenuity on the part of Richard Holzapfel, JSC Fire Protection Engineer in Charge of Fire Services. Holzapfel is responsible for obtaining many of the training devices shown in the photographs on this page. He also obtained several old wrecked cars,



Capt. Jimmy Kraus

created a large water ditch to simulate bayou and other water area rescue conditions, and had a building constructed so that various types and arrangements of building structures could be treated as separate fire situations.

The major rescue tools coveted by community units are the Hurst tool, also known as "the jaws of life," and the only aerial ladder in the Clear Lake area. The Hurst tool was specifically demonstrated in Saturday's class. It is capable of cutting or prying apart practically anything in a matter of seconds.

Several recent dramatic and somewhat heroic rescues have been made by JSC fire department per-

sonnel, often with the help of the Hurst tool. One rescue incident took place at NASA Road 1 where Captain Jimmy Kraus attempted to get a crane off a man replacing a telephone pole. The man and the crane had fallen onto a clay surface. A second crane had to be brought in from the motorpool to lift the fallen crane off the man, and Kraus put his own life on the line rescuing the victim, using the Hurst tool.

Another life-or-death rescue situation occurred along Todville Road in Seabrook, where a man pinned inside his wrecked automobile was bleeding profusely. Two wreckers were called in to try to pry apart the vehicle from both sides and thus free the victim, but the wreckers succeeded only in raising the car up off the ground.

The Hurst tool was then brought in and the car was apart in seconds. The victim was removed alive by Hermann Hospital's Life Flight helicopter.

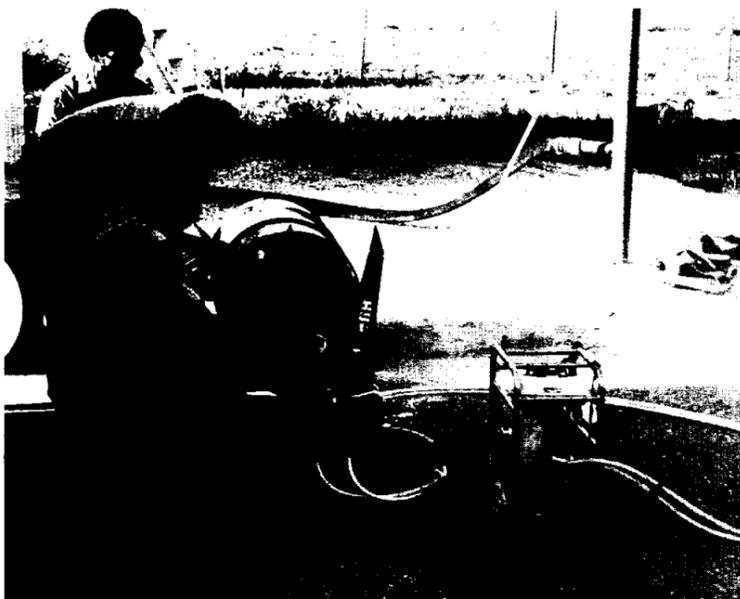
JSC fire and/or rescue units are frequently called here onsite, probably more often than most people realize.

Coincidentally, just as this article was being written, the JSC fire department arrived at Building 2 because an air conditioning duct was spewing smoke into the hallways, triggering an alarm.

The smoke was evacuated from the building and the problem with the duct corrected.



INSTRUCTION IN USE OF HURST TOOL - The Nassau Bay Fire Dept. and other Clear Lake units joined in this demonstration and lesson in the use of the Hurst tool Saturday. Notice the car in the background used in the demonstration.



"JAWS OF LIFE" - This is the Hurst tool that JSC acquired about a year ago. So far, there have been six calls for it. The tool is powered by a hydraulic unit and the heavy cutting or prying apparatus can be hooked into it. The tool, as it is shown here, has 4000 pounds of force per square foot at the tips. It is especially helpful in automobile accidents because it is made of nonferrous metals that cannot cause sparks.



RECONSTRUCTING THE SCENE - The JSC rescue unit at the right contains various types of rescue equipment, including a powerful saw, the Hurst tool, ropes, and some emergency medical supplies. The tower, which is much higher than this photograph shows, has various configurations on the way up to enable trainees to learn different methods of using

ropes in high-area rescues and to take advantage of different types of railings or other access structures. The structure on the left is made mainly of concrete and, when completed, will be used with furniture to simulate a house fire or converted to an office or other structure type.

WEEK OF NOV. 14 - NOV. 18

MONDAY: Cream of Potato Soup; Weiners & Sauerkraut; Stuffed Pork Chops; Baked Chicken; Meat Sauce & Spaghetti (Special); French Beans, Squash, Buttered Beans. Selection of Salads, Sandwiches, & Pies Daily.

TUESDAY: Navy Bean Soup; Beef Stew; Liver w/onions; Shrimp Creole; Smothered Steak (Special); Cabbage, Corn, Peas.

WEDNESDAY: Seafood Gumbo; Roast Beef; Baked Perch; Chicken Pan Pie; Salmon Croquette (Special); Mustard Greens, Italian Beans, Sliced Beets.

THURSDAY: Beef & Barley Soup; Beef Tacos; Pork Steak; Diced Ham w/ Lima Beans; Stuffed Cabbage (Special); Ranch Beans, Brussel Sprouts, Lima Beans.

FRIDAY: Seafood Gumbo; Fried Shrimp; Deviled Crabs; Ham Steak; Salisbury Steak (Special); Carrots, Green Beans, June Peas.

WEEK OF NOV. 21 - NOV. 25

MONDAY: Cream of Chicken; Beef Burgundy over Noodles; Fried Chicken; BBQ Sausage Link; Hamburger Steak (Special); Buttered Corn, Carrots, Green Beans. Selection of Salads, Sandwiches, & Pies Daily.

TUESDAY: Beef Noodle Soup; Baked Meatloaf; Liver w/onions; BBQ Spare Ribs; Turkey & Dressing (Special); Spanish Rice, Broccoli, Buttered Squash.

WEDNESDAY: Seafood Gumbo; Red Fish; Tamales w/chili; 8-oz. T-Bone Steak; Spanish Macaroni (Special); Ranch Beans, Spinach, Beets.

THURSDAY:

FRIDAY: Seafood Gumbo; Broiled Flounder; Fried Shrimp; Baked Ham; Tuna & Noodles (Special); Macaroni & Cheese, Turnip Greens, Stewed Tomatoes.

CLOSED THANKSGIVING